

## DIRECTIONS

Take I-93 to Exit 15E (I-393 E) in Concord. From I-393, take Exit 2. Turn R on East Side Dr. and travel about 0.8 miles. Then turn L on Portsmouth St. The unpaved parking area is about 0.5 miles on L, at the bottom of the hill. Or, from I-93, take Exit 16 to R on East Side Drive, then R on Portsmouth Street and go ca. 0.6 miles (hard L at 0.3 miles). Park in the dirt lot on the R at the base of the hill. Site may also be accessed from above.



## PROPERTY-USE GUIDELINES

Trails and parking lots on this property are open to the public from dawn to dusk for recreation and education. Please, for the protection of the area and its inhabitants, and for everyone's enjoyment:

- FOOT TRAVEL ONLY (NO HORSES OR BIKES)
- LEASH DOGS AND BE PET-RESPONSIBLE
- STAY ON MARKED TRAILS
- PLEASE RESPECT PLANTS AND ANIMALS
- NO HUNTING ALLOWED
- NO CAMPING OR OPEN FIRES
- CARRY OUT TRASH

## THE SOCIETY FOR THE PROTECTION OF NEW HAMPSHIRE FORESTS

The Forest Society is a statewide, private, non-profit land conservation organization. It is a unique blend of land trust, environmental advocate, and forestry association. In New Hampshire, the Forest Society owns more than 120 properties, has protected more than one million acres of land, and represents over 10,000 members. The award-winning Conservation Center, perched high on the bluff above the Merrimack River floodplain, serves both as the Forest Society's headquarters and as an education destination for the public. For more information about the Society's work, contact:

Society for the Protection of New Hampshire Forests  
54 Portsmouth Street  
Concord, NH 03301  
(603) 224-9945

On the web: [www.spnhf.org](http://www.spnhf.org)

## FLOODPLAIN NATURAL COMMUNITIES

The steep bluff and flat terrace below the Forest Society's Conservation Center headquarters support a mosaic of several unique natural communities. The trail initially passes through infrequently flooded **rich sugar maple - oak - hickory terrace forest**, one of the most enriched forest types in the state. It occurs on the slopes of the bluff as well as on the flat high terrace below. The considerable silt content of the soil in this community contributes to high fertility and a broad diversity of tree species (26 species documented), with oaks and hickories as dominants. Also on the bluff are numerous wet seeps, formed when water percolating down through the sand from above encounters hard, impermeable silt and clay layers and emerges from the bank. In some places, the forest gives way to open pasture areas dominated by little bluestem (a grass). On a slightly lower terrace at the edge of the river, the community shifts to a more frequently flooded **silver maple - false nettle - sensitive fern floodplain forest**. The canopy here is completely dominated by leaning silver maple trees, with very little understory plants due to the annual flooding. Both of these forests are rare natural communities in NH that are threatened by land conversion (development and agriculture) and flood controls. Lastly, a variety of wetlands such as marshes, ponds, and streams also occur throughout the floodplain. This mix of natural communities supports an abundance of birds, turtles, and other wildlife. It is an excellent place to see migrating birds, especially in the spring.

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This brochure was created by the New Hampshire Natural Heritage Bureau as part of a series designed to educate the public about the state's special plants and natural communities. For more brochures, visit: <http://nh.gov/dred/divisions/forestandlands/bureaus/naturalheritage/Guides.htm>



NEW HAMPSHIRE  
NATURAL HERITAGE  
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NH NATURAL HERITAGE BUREAU

## VISITING NEW HAMPSHIRE'S BIODIVERSITY

### MERRIMACK RIVER CONSERVATION AREA FLOODPLAIN FOREST



*a property owned and managed by*

The Society for the Protection  
of New Hampshire Forests



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## TRAIL DESCRIPTION:

Leaving the lower parking lot, you will pass by an old beaver pond on your right (through the shrubs). This is a first hint of the many dynamic ecological processes at work here. Most of this site is a high floodplain terrace composed of a mosaic of several natural community types. Shortly you will arrive at a wooden stairway that leads left up the forested slope towards the Forest Society's Conservation Center. The natural community on the steep slope here is a nutrient-rich forest, established on old glacial lakebed soils. These soils accumulated at the bottom of "Lake Merrimack" which extended down the Merrimack River Valley more than 10,000 years ago. Notice the broad diversity of tree species here, including maples, oaks, hickories, pines, ash, birches, and basswood. Continuing on the trail, at a sharp right turn before a wooden bridge, notice the steep, seepy hillside covered with scouring rush on your left. Cross the bridge over Mill Brook. Notice the abundance of vines clinging to the trees – a common feature of floodplain forests. However, one of these vines, oriental bittersweet, is a non-native, invasive species and threatens native plants in the forest. At the kiosk just beyond the bridge, take a left onto the Les Clark Nature Trail. You will immediately cross a low spot (that can be wet in the spring or during periods of flooding) before approaching the first of six numbered wooden posts. The posts are described below:

**1. Mill Brook.** Look across slow-flowing meanders of the brook to an emergent herbaceous marsh and a stand of silver maples over dense ferns. Other trees seen overhanging the water here include shagbark hickory, white ash, and basswood.

**2 & 3. Open meadow.** To the right is an area of restored sandplain grassland habitat. Remnant stumps from a former scotch pine tree plantation are found here. The current meadow, dominated by little bluestem, is kept open by mowing every six years or so. Beware of poison ivy here, and elsewhere on the floodplain.

**4. Ostrich ferns.** On your left is a dense stand of ostrich ferns. These large ferns are broadest toward the top and taper towards the base. The young sprouts that emerge in spring are called fiddleheads.

**5. White pines.** Pass through a small stand of white pines. These early successional trees provide food and shelter for a variety of animals.

**6. Eastman Cove.** This pond and open marsh fill an old oxbow of the Merrimack River. Oxbows are former channels, abandoned when the river changed course. They make good habitat for ducks, geese, and herons.

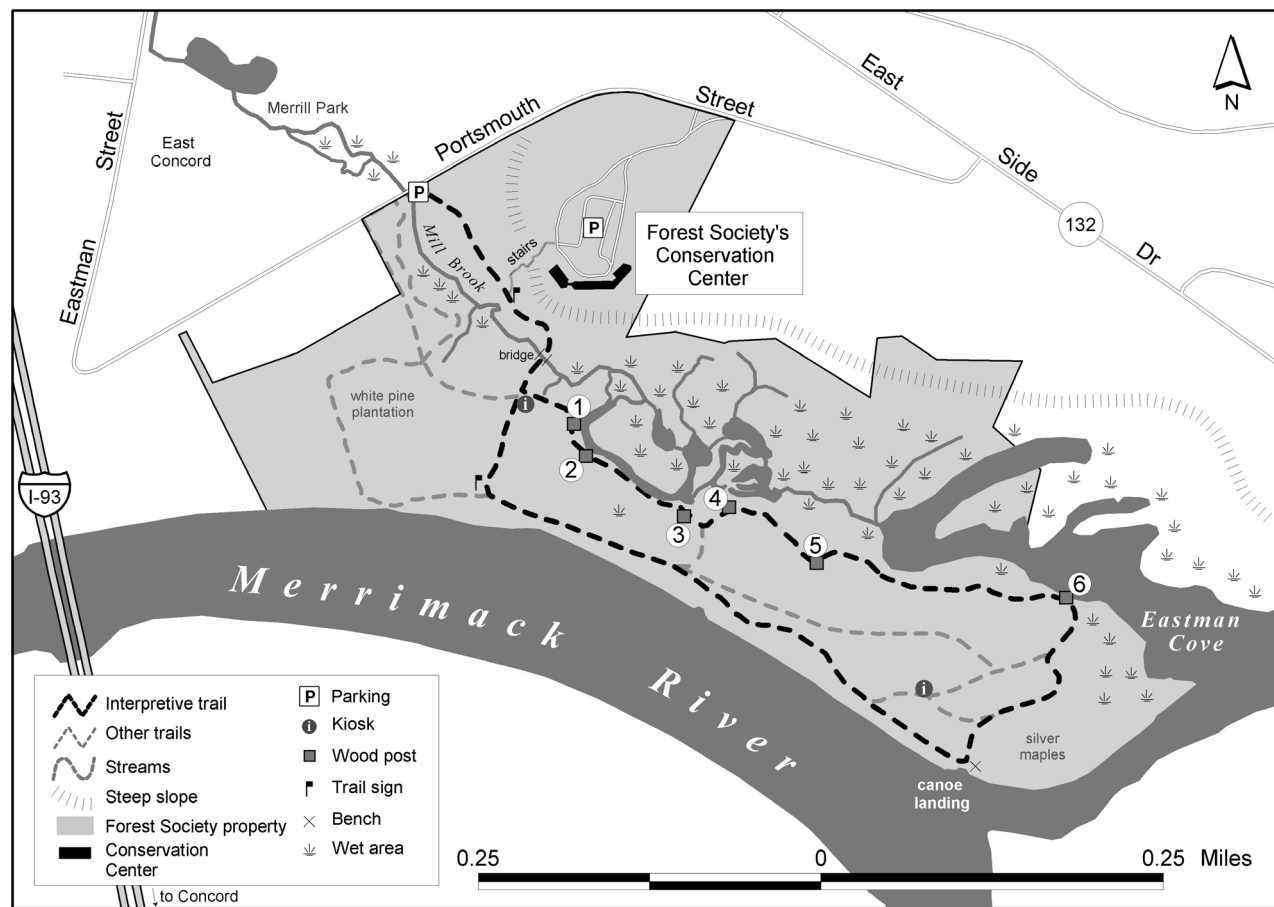
The edges and banks are prime marsh habitat for small land birds, deer, raccoon, beaver, and otter, as well as many insects.

The trail swings to the right and onto the path of an old sandy carriage road. Bear left down a smaller path towards the river (except when flooded). From the canoe landing at the river's edge, look left into a silver maple floodplain forest community. Note the sparseness of grasses and forbs in the understory. This low area is inundated by the river during spring flooding as well as during extended periods of heavy rain. The frequent flooding kills most shrubs and saplings, leaving an open understory. The sand on the soil surface has eroded from banks upstream and been deposited here when the current slows down at the bend in the river. Continue along the river to the right, passing occasional white pines. Walk through the open grassland area, with the river to your left. The bluff on this side is being cut back significantly each year, a natural process, but possibly exacerbated by the I-93 bridge pilings that deflect the

current. Please avoid walking directly along the edge of the bank, for your safety and to prevent further erosion. At the marked junction, take a right, bringing you back to the kiosk. Return to the parking lot the way you came in. An alternate way back is to complete the Les Clark Nature Trail loop past a white pine plantation to Portsmouth Street.

## INVASIVE SPECIES:

Several exotic plants (not native to North America) are present in abundance on the floodplain, including glossy buckthorn, oriental bittersweet, Japanese barberry, and Norway maple. The seeds of these plants are transported by birds and floods, making floodplains especially vulnerable to repeated non-native plant invasions. They can outcompete and replace native species, posing a threat to the future integrity of the natural communities here. Efforts are underway both locally and regionally to understand and control the effects of invasive species on the landscape.



Numbers on map are described in the trail description

Map by Ben Kimball, January 2004